

San Francisco Bay Conservation and Development Commission

455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

April 27, 2018

TO: Environmental Justice Commissioner Working Group Committee Members

FROM: Steve Goldbeck, Chief Deputy Director (415/352-3611; steve.goldbeck@bcdc.ca.gov)
Shannon Fiala, Planning Manager (415/352-3665; shannon.fiala@bcdc.ca.gov)
Clesi Bennett, Coastal Planner (415/352-3613; clesi.bennett@bcdc.ca.gov)

SUBJECT: Analysis of Definitions of Environmental Justice and Social Equity Terms for BCDC's Bay Plan Amendment
(For Environmental Justice Commissioner Working Group consideration on May 3, 2018)

Background

At the first Environmental Justice Commissioner Working Group meeting on April 5, 2018, members discussed definitions related to this Bay Plan Amendment and noted that the Commission discussed, but did not officially decide how to define or describe communities of concern (e.g. vulnerable, disadvantaged, environmental justice, economically disadvantaged, etc.) when the Commission voted to initiate the Bay Plan amendment to consider amending the Bay Plan to address social equity and environmental justice. None of these terms are included in the current Bay Plan. The Environmental Justice Commissioner Working Group asked staff to research how existing versions of these definitions and whether and how they could be better tailored to the Bay Plan amendment process.

Questions for the Commissioner Working Group to consider:

1. Most state agencies (including BCDC's sister agency, the California Coastal Commission) use the state's definition of environmental justice from the California Government Code §65040.12(e) stating that environmental justice is, "The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Does BCDC want to use this definition for consistency, or alternatively, should the commission create a tailored definition?
2. Social equity has not been defined in the state code aside from "health equity." ("Health equity refers to the efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives." (Cal Health and Safety Code). In the updated General Plan Guidelines, OPR explains that social equity is broader than

environmental justice. Does BCDC want to use this mindset and define social equity as a larger framework of ensuring opportunities for all, or should we create a BCDC-specific definition of equity tied to land use, climate change, and/or public access/recreation?

3. Identifying communities facing environmental injustices and social inequities will be integral to the implementation of any environmental justice or social equity policy. These communities have been defined in numerous ways depending on the agency/department and the focus of their work. Currently, BCDC's ART program identifies communities using several indicators, including socioeconomic factors, communities containing groups at risk of flooding at 66" inches of sea level rise, and presence of contaminated sites. Should the Bay Plan amendment use the same indicators and definition?
4. If not, which criteria should BCDC use to describe these communities? Should the community definition be empirical, i.e., only defined by factors that can be measured quantitatively (similar to CalEPA, BAAQMD, MTC) or more aspirational, i.e., citing more nuanced inequities that cannot be measured or can only be measured qualitatively? Or a mix of these (similar to the definition used by the San Francisco Bay Restoration Authority)?

Examples of Definitions

Justice Definitions:

1. **Environmental Justice.** "The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." (Cal Gov't Code §65040.12(e))¹ (OPR / CalEPA).

"...the fair treatment^a and meaningful involvement^b of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies." (US EPA).

^a "**Fair treatment** means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies."

^b "**Meaningful involvement** means. People have an opportunity to participate in decisions about activities that may affect their environment and/or health; The public's contribution can influence the regulatory agency's decision; Community concerns will be considered in the decision-making process; and Decision makers will seek out and facilitate the involvement of those potentially affected." (US EPA).

¹ This definition was first stated in SB115 (1999), directing OPR and CalEPA to undertake environmental justice efforts at the state level. Since, nearly all other state agencies (and many regional and local agencies in California) have adopted this definition.

2. **Climate Justice.** “Climate justice entails ensuring that the people and communities who are least culpable in the warming of the planet, and most vulnerable to the impacts of climate change, do not suffer disproportionately as a result of historical injustice and disinvestment.” (CNRA)².

“Climate justice requires California leaders to acknowledge that these frontline communities [see definition below] are experts in creating solutions to protect and preserve our air, water, land, and communities, despite their historical exclusion from decision making and from public resources and services. Climate justice requires California leaders to provide public resources and services to frontline communities to engage and assist them in developing technologies, policies, professions, services, and projects for addressing the causes and impacts of climate change and healing from historical injustices.” (Climate Justice Working Group)³.

EQUITY DEFINITIONS:

1. **Social Equity**⁴. “The fair, just, and equitable management of all institutions serving the public directly or by contract; the fair, just and equitable distribution of public services and implementation of public policy; and the commitment to promote fairness, justice, and equity in the formation of public policy.” (National Academy of Public Administration, included in OPR’s 2017 General Plan Guidelines).

“The expansion of opportunities for betterment that are available to those communities most in need, creating more choices for those who have few.” (American Planning Association, included in OPR’s 2017 General Plan Guidelines).

“Social equity ensures that all groups enjoy the benefits of a healthy and prosperous community, with access to housing, transportation, jobs and commerce. It enables a variety of businesses to flourish.” (California Planning Roundtable, included in OPR’s General Plan Guidelines).

Social equity is “fair access to livelihood, education and resources; full participation in the political and cultural life of the community; and self-determination in meeting fundamental needs” (Ecotrust, definition used by BCDC’s ART program).⁵

² This definition was included in the new “Climate Justice” chapter of the California Natural Resources Agency’s *Safeguarding California Plan: 2018 Update*. “Climate Justice” was included as a stand-alone, over-arching chapter with dozens of action items pulled from the other sector-specific policy areas...

³ The Climate Justice Working Group, convened by the Resources Legacy Fund and comprised of environmental justice non-profit organizations, developed a set of recommendations for the 2018 update of *Safeguarding California*, where they emphasized the urgent need for climate justice throughout the state. Many of the recommendations were incorporated into the “Climate Justice” chapter of the *Safeguarding California Plan: 2018 Update*.

⁴ There is no state-adopted definition of social equity.

⁵ Cited on BCDC’s ART website.

2. **Equity.** “Equity is just and fair inclusion into a society in which all can participate, prosper, and reach their full potential.” (OPR’s *Planning and Investing for a Resilient California*, cited from PolicyLink)⁶.
3. **Climate Equity.** Climate Equity is “[t]he central equity challenges for climate change policy involve several core issues: addressing the impacts of climate change, which are felt unequally; identifying who is responsible for causing climate change and for actions to limit its effects; and understanding the ways in which climate policy intersects with other dimensions of human development, both globally and domestically.” (OPR’s *Planning and Investing for a Resilient California*, cited from World Resources Institute)⁷.
5. **Health Equity.** “Health equity refers to the efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives.” (Cal Health and Safety Code)⁸.
6. **Determinants of Equity.** “Determinants of equity” are recognized to mean, “social, economic, geographic, political, and physical environmental conditions that lead to the creation of a fair and just society.” (Cal Health and Safety Code)⁹.

⁶ This definition was included in OPR’s *Planning and Investing for a Resilient California* guidance document for implementing Executive Order B-30-15 (the integration of climate change into all state planning and investment). The guidance emphasizes the importance of equity in climate-safe planning and investment and includes an “Equity Checklist” for state agencies’ planning and investments.

⁷ This definition was included in OPR’s *Planning and Investing for a Resilient California* guidance document for implementing Executive Order B-30-15 (the integration of climate change into all state planning and investment). The guidance emphasizes the importance of equity in climate-safe planning and investment and includes an “Equity Checklist” for state agencies’ planning and investments.

⁸ The only state-mandated definition related to equity is in the health context. Both the definitions of “health equity” and “determinants of equity” are found in the Cal Health and Safety Code and are used by the California Department of Public Health. This section (131019.5) of the Cal Health and Safety Code also established the California Department of Public Health’s Office of Health Equity, who use the above definitions of “health equity” and “determinants of equity” in its work pursuant to Cal Health and Safety Code §131019.5.

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COMMUNITY DEFINITIONS:

1. **Disadvantaged Communities.** “Disadvantaged communities may include, but are not limited to: a) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; b) Areas with concentrations of people that are of low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment.” (Cal Health and Safety Code)¹⁰.

“Disadvantaged communities mean an area identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code OR an area that is low-income that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.”

“Low-income area means an area with household incomes at or below 80 percent of the statewide median income OR with household incomes at or below the threshold designated as low income by the Department of Housing and Community Development’s list of state income limits adopted pursuant to Section 50093.” (Cal Government Code)¹¹.

“A Disadvantaged Community is a community with a median household income less than 80 percent of the statewide median household income. Severely disadvantaged community means a community with a median household income less than 60 percent of the statewide average.” (Cal Public Resources Code; Cal Water Code)¹².

“CalEPA is designating the highest scoring 25% of census tracts from CalEnviroScreen 3.0 as disadvantaged communities. Additionally, 22 census tracts that score in the highest 5% of CalEnviroScreen’s Pollution Burden, but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data, are also designated as disadvantaged communities.” (CalEPA designation of disadvantaged communities pursuant to SB535)¹³.

¹⁰ This definition is found in the Cal Health and Safety Code §39711 in Chapter 4.1: Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act and calls on CalEPA to identify disadvantaged communities for the allocation of Greenhouse Gas Reduction Fund monies.

¹¹ This definition is included in OPR’s General Plan Guidelines for implementing SB1000 (Environmental Justice Element requirement). It is from the Cal Gov’t Code §65302 which enumerates on the authority for and scope of General Plans under the Local Planning Chapter of the Planning and Zoning Division of the Planning and Land Use Title.

¹² This definition comes from the Cal Public Resources Code §75005 under Division 23: The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 in the California Public Resources Code, initiated by Proposition 84, a bond act to improve the adaptability of the state’s water and flood control infrastructure. Additionally, this definition is reflected in the Cal Water Code §79505.5 under Division 26.5: Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, which was initiated by Proposition 50, a bond act to improve the security and safety of California’s drinking water system.

¹³ CalEPA’s designation of disadvantaged communities is in accordance with SB535, which requires 25% of the Greenhouse Gas Reduction Fund monies to benefit communities as described in the Cal Health and

“Disadvantaged Communities refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, health conditions like asthma and heart disease, as well as air and water pollution, and hazardous wastes.” (California Public Utilities Commission)¹⁴.

2. **Economically Disadvantaged Communities.**

“An economically disadvantaged community (EDC) is defined as a community with a median household income less than 80% of the area median income (AMI). Within this set of low-income communities, communities of particular concern include those that: are historically underrepresented in the environmental policymaking and/or projects, bear a disproportionate environmental and health burden, are most vulnerable to climate change impacts due to lack of resources required for community resilience, or are severely burdened by housing costs, increasing the risk of displacement.” (San Francisco Bay Restoration Authority)¹⁵.

3. **Vulnerable Communities.** “Vulnerable communities include, but are not limited to, women, racial or ethnic groups, low-income individuals and families, individuals who are incarcerated and those who have been incarcerated, individuals with disabilities, individuals with mental health conditions, children, youth and young adults, seniors, immigrants and refugees, individuals who have experienced trauma related to genocide, individuals who are limited English proficient (LEP), and lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQQ) communities, or combinations of these populations.” (Cal Health and Safety Code)¹⁶.

Climate vulnerability describes the degree to which natural, built, and human systems are at risk of exposure to climate change impacts. Vulnerable communities experience heightened risk and increased sensitivity¹ to climate change and have less capacity² and

Safety Code 39711, which directs CalEPA to identify disadvantaged communities based on a series of geographic, socioeconomic, public health, and environmental hazard criteria (measured via CalEnviroScreen).

¹⁴ SB350 requires the California Public Utilities Commission and the California Energy Commission to create a Disadvantaged Communities Advisory Group to better understand how state energy programs affect these areas with the aim to improve them. The California Public Utilities Commission describes disadvantaged communities in this manner on its website and mentions CalEnviroScreen as a tool for identifying which communities are the most burdened.

¹⁵ Measure AA, the regional funding mechanism of the San Francisco Bay Restoration Authority, stipulated nine prioritization criteria for determining funding for projects, one being, “benefit economically disadvantaged communities.” With the help of its Advisory Committee, the San Francisco Bay Restoration Authority defined economically disadvantaged communities (above).

¹⁶ This section (131019.5) of the Cal Health and Safety Code also established the California Department of Public Health’s Office of Health Equity, who use this definition of “vulnerable communities” in its work pursuant to Cal Health and Safety Code §131019.5.

fewer resources to cope with, adapt to, or recover from climate impacts. These disproportionate effects are caused by physical (built and environmental), social, political, and/or economic factor(s), which are exacerbated by climate impacts. These factors³ include, but are not limited to, race, class, sexual orientation and identification, national origin, and income inequality. (OPR ICARP-TAC)¹⁷.

“Sensitivity is the degree to which a system or species is affected, either adversely or beneficially, by climate variability or change. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range, or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise).”(IPCC)¹⁸.

“Adaptive capacity is the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.” (Ibid.)

4. **Underrepresented Community.** Underrepresented communities are, “groups that do not meet the state definition of a Disadvantaged Community (DAC) or Economically Distressed Area (EDA), but are below the median household income for the nine-county San Francisco Bay Area. URCs are also defined as groups that have a history of disproportionately less representation in water policy and/or projects and include, but are not limited to, African-Americans, Asian/Pacific Islanders, Native Americans, California Indian Tribes, Hispanic, Middle-Eastern, LGBTQ, homeless, new immigrant, disabled, youth and elderly populations, unincorporated communities, and small, independent organizations.” (Environmental Justice Coalition for Water)¹⁹.
5. **Vulnerable Places.** “Vulnerable places are places or communities with inequities in the social, economic, educational, or physical environment or environmental health and that have insufficient resources or capacity to protect and promote the health and well-being of their residents.” (Cal Health and Safety Code)²⁰.

¹⁷ In 2015, SB246 directed OPR to create the Integrated Climate Adaptation and Resilience Program (ICARP) to aid in the coordination of climate change adaptation efforts throughout the state. Both components of the program, the State Adaptation Clearing House and the Technical Advisory Committee (TAC) are including elements of environmental justice and equity. The TAC includes members from environmental justice organizations and in April 2018, defined the term “vulnerable communities” (above) to inform OPR in implementing SB246.

¹⁸ International Panel on Climate Change 2014: Impacts, Adaptation, and Vulnerability. https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-AnnexII_FINAL.pdf

¹⁹ Through Proposition 1 (funding the Disadvantaged Community Involvement Program) the Environmental Justice Coalition for Water (EJCW) will be distributing funds from the California Department of Water Resources for the Bay Area Integrated Regional Water Management program. In the Bay Area’s proposal (prepared by the EJCW), they defined underrepresented communities in addition to disadvantaged communities.

²⁰ This section (131019.5) of the Cal Health and Safety Code also established the California Department of Public Health’s Office of Health Equity, who use this definition of “vulnerable places” in its work pursuant to Cal Health and Safety Code §131019.5.

7. **Impacted Communities.** “The Air District defines impacted communities, also known as CARE communities, as areas within the Bay Area where health impacts from air pollution have been determined to be greatest. The Air District’s latest analysis (version-2) for determining areas with the greatest health impacts considered air pollution levels (fine particles, ozone, and toxic air contaminants) and population vulnerability as determined from health records (mortality rates and diseases affected by air pollution).” (Bay Area Air Quality Management District)²¹.
8. **Communities of Concern.** Communities of Concern are “census tracts that have a concentration of BOTH minority AND low-income households, OR that have a concentration of 3 or more of the remaining 6 factors (#3 to #8) but only IF they also have a concentration of low-income households.”

Factors:

1. Minority
2. Low Income (<200% Federal Poverty Level – FPL)
3. Limited English Proficiency
4. Zero-Vehicle Household
5. Seniors 75 Years and Over
6. People with Disability
7. Single-Parent Family
8. Severely Rent-Burdened Household (Plan Bay Area 2040 Scenarios)²².
9. **Environmental Justice Communities.** “Environmental justice communities are commonly identified as those where residents are predominantly minorities or low-income; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices and activities in their communities.” (California Natural Resources Agency Environmental Justice Policy)²³.

²¹ The Bay Area Air Quality Management District has laid out several objectives for identifying and mapping “impacted communities.” The Air District hopes to use this mapping to “prioritize grant and incentive funding, focus enforcement activities, develop regulations targeting pollutants and sources of concern in impacted areas, inform planning activities, direct outreach efforts, and direct special studies.” See: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_E_Retrospective_April2014.ashx?la=en

²² In the development Plan Bay Area 2040, MTC and ABAG formed a Regional Equity Working Group to inform the development of an equity analysis of the plan. The analysis included identifying equity measures, defining Communities of Concern (above), and creating a methodology.

²³ This definition is included in the “Background” section of the California Natural Resources Agency’s Environmental Justice Policy, which calls on all departments, boards, commissions, conservancies, and

10. **Frontline Communities.** “Frontline communities that experience continuing injustice—including people of color, immigrants, people with lower incomes, those in rural areas, and indigenous people—face a legacy of systemic, largely racialized, inequity that influences their living and working places, the quality of their air and water, and their economic opportunities.” (Climate Justice Working Group – Recommendations for Safeguarding California 2018 Update)²⁴

OTHER NOTES:

“Environmental justice is considered an equity issue. It is an integral component of equity, but social equity also encompasses a larger framework such as access to jobs and economic opportunity, arts and culture, safety from violence, public administration, management of goods and services, access to education, and complete neighborhoods. Social equity is applied across the age range and various disciplines and has many other nuances...Equity can be used as the larger framework for ensuring opportunities for all in the community.” (OPR General Plan Guidelines 2017)²⁵.

Staff Analysis

The overall challenge is to strike a balance between broad definitions that capture the big picture versus more specific actionable definitions. However, if the definition is too broad, it provides little guidance in how and where to implement it, but if the definition is too narrow, staff may not be allowed enough discretion to apply it in different contexts over time. Another overarching consideration is the role that communities should play in defining these terms, in order to facilitate more equitable policymaking.

special programs of the Resources Agency to consider environmental justice in their decision-making processes.

²⁴ The Climate Justice Working Group, convened by the Resources Legacy Fund and comprised of environmental justice non-profit organizations, developed a set of recommendations for the 2018 update of *Safeguarding California*, where they identified frontline communities as being particularly vulnerable to climate change. Many of the recommendations were incorporated into the “Climate Justice” chapter of *Safeguarding California Plan: 2018 Update*.

²⁵ This note is from Chapter 5: Equitable and Resilient Communities of the 2017 OPR General Plan Guidelines which demonstrates the relationship between environmental justice and equity and could be helpful in understanding the concepts together.

Environmental Justice²⁶. The prevailing definition of environmental justice used by California state agencies and San Francisco Bay Area regional agencies is the 1999 definition from SB115, that is now included in the Cal Government Code,²⁷ stating that environmental justice is,

“The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

This definition is broad enough to be applicable to different types of environmental agencies in the State. Adopting the State definition would provide consistency with other agencies while retaining flexibility to tailor policy changes to BCDC’s mission and core work of coastal land use planning and permitting. This definition could also be more adaptable over time than a more specific definition as environmental laws, regulations and policies evolve.

On the other hand, a tailored definition of environmental justice could include actionable components relevant to BCDC’s work, which could provide accountability. For example, the definition could specifically reference BCDC’s permitting and planning processes:

“The fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the implementation and enforcement of the McAteer-Petris Act, Suisun Marsh Preservation Act, San Francisco Bay Plan and amendment process, BCDC Regulations, BCDC permit process, including the Design Review Board and Engineering Criteria Review Board, and Adapting to Rising Tides Program, as well as the development of BCDC’s Strategic Plan.”²⁸

However, a narrower definition could become outdated as new issues and solutions develop.

Social Equity. Similarly, social equity can be both viewed broadly and narrowly. In OPR’s 2017 General Plan Guidelines, they recommend viewing social equity as a larger framework within which environmental justice resides. However, some agencies have tailored a definition of equity to their work, such as “health equity” or “climate equity.” Defining equity as a broader framework could allow flexibility over time as challenges arise. A broad understanding of social equity also acknowledges that injustices and inequities have historical context and while some challenges and solutions may be outside of BCDC’s authority, there is value in seeing how BCDC’s work fits into the larger picture.

²⁶ Staff note: The two prevailing definitions of environmental justice relevant to BCDC’s Bay Plan Amendment process are the state and national definitions. California’s definition was adapted from the US EPA. There are a few important differences between the two definitions. First, the national definition includes, “meaningful involvement” (defined above) in decision-making whereas the California state definition does not. The inclusion of “national origin” is another difference between the two definitions, the US EPA includes it and California includes race, culture, and income in its definition.

²⁷ §65040.12(e)

²⁸ For discussion purposes only.

However, if the definition is too broad, it may be difficult to implement. Defining social equity as it relates to BCDC could provide a land use and/or climate equity framework to specifically guide the commission's work. For example, a tailored definition could specifically reference BCDC's mission:

"Bay equity refers to BCDC's efforts to ensure that this and future generations have full and equal public access to San Francisco Bay and that development approved through BCDC's permit process promotes everyone's opportunity to participate."²⁹

However, this could constrain BCDC in the future as issues evolve and could potentially isolate the work from the broader context of social equity. Again, if BCDC decides to use a tailored definition of social equity, it would need to be qualified as "social equity within the scope of BCDC's work" as to not dismiss the fact that social equity encompasses more than the scope of BCDC's work.

Communities. Most agencies have taken the liberty of defining communities facing inequities and injustices based on their missions and programmatic work. There are many different terms that BCDC could use in defining these communities, including: disadvantaged communities, economically disadvantaged communities, vulnerable communities, underrepresented communities, vulnerable places, impacted communities, communities of concern, environmental justice communities, and frontline communities. There are two main paths agencies have taken in defining these communities. Several agencies have created empirical definitions, based on factors that can be measured quantitatively, such as socioeconomic data from the US Census Bureau (including income, race, age, indicators related to housing, language, indicators related to transportation, etc.) and adjacency of polluting land uses. CalEPA (via CalEnviroScreen), BAAQMD, and MTC follow this approach. Several other agencies are utilizing CalEPA's CalEnviroScreen to define and identify communities.

The other avenue is to create a more aspirational definition that includes inequities that cannot be measured or can only be measured qualitatively, such as historical involvement in policymaking, gentrification, homelessness, community cohesion, community resilience, community-identified pollution sources, etc. The Climate Justice Working Group and Environmental Justice Coalition for Water offer these types of definitions. One challenge is that with these qualitative factors is that without data, they cannot be used objectively to identify communities.

Another approach includes both types of indicators, quantitative (i.e. income) and qualitative (historical underrepresentation in environmental policymaking, resources for community resilience, etc.), which has been the San Francisco Bay Restoration Authority's approach to project selection. Currently, BCDC's ART program designates communities as vulnerable using several indicators, including quantitative socioeconomic factors for which there are census data (e.g., renters, under 5, 75 or over, people of color, very low income, without a vehicle, people with disability, single parent families, limited English proficiency, without a high school degree, and severely housing-cost burdened), communities containing block groups exposed to 66" of sea level

²⁹ For discussion purposes only.

rise, presence of contaminated sites (e.g., solid waste disposal and solid waste landfills, superfund sites, cleanup sites, and ground water threats), communities identified in complementary vulnerability screening processes (e.g., MTC CoCs, BAAQMD CARE program, DWR DAC, CalEPA's CalEnviroScreen, UC-Berkeley Displacement Vulnerability Index), as well as community-scale studies and other resources indicating vulnerabilities. However, the ART definition includes sea level rise exposure as a factor in measuring vulnerability, and this amendment may focus on areas such as public access and mitigation, in addition to shoreline protection. The term that we choose to use for the Bay Plan amendment process, and its definition, could be explored in the context draft policy changes. For example, if we recommend draft policy language that requires applicants take certain actions if development is proposed in or adjacent to certain communities, then we should consider the definition in that context and we should consider creating maps of those communities in order to provide clarity for applicants (rather than requiring each applicant to determine which communities meet the definition on a project-by-project basis). However, those maps would need to be updated on a regular basis in order to keep them current.



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Comparative Analysis of Spatial Identification Methods by BARC Member Agencies

Map 1: MTC Communities of Concern

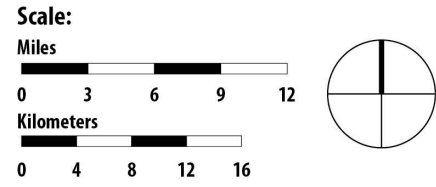
 Communities of Concern (ACS 2014)

- The Communities of Concern (tract geography) dataset is based upon eight demographic variables:
1. Minority (70% threshold)
 2. Low-Income (Less than 200% of Fed. poverty level, 30% threshold)
 3. Limited English Proficiency (20% threshold)
 4. Elderly (10% threshold)
 6. Single-Parent Families (20% threshold)
 7. Disabled (25% threshold)
 8. Rent-Burdened Housholds (15% threshold)

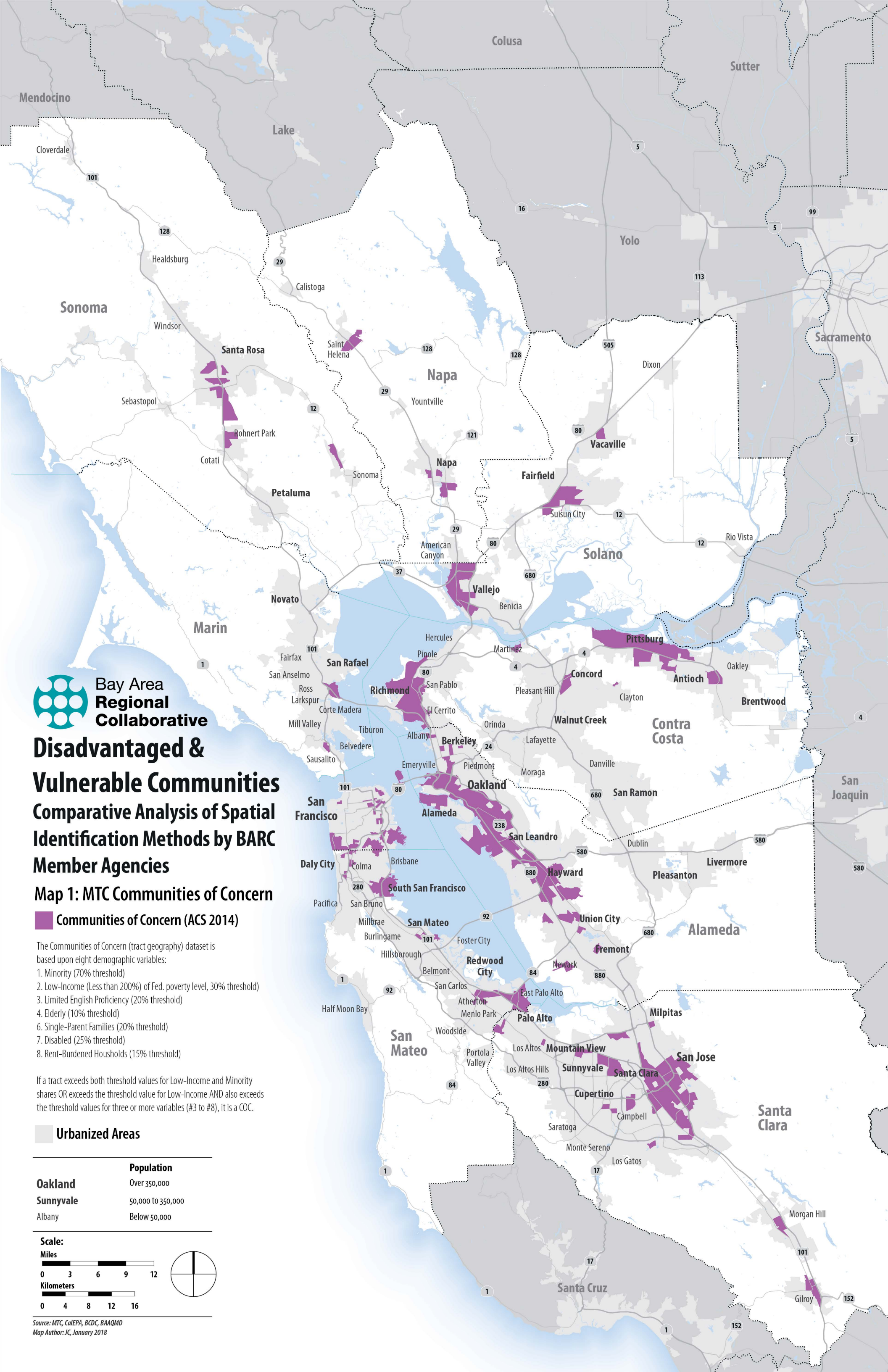
If a tract exceeds both threshold values for Low-Income and Minority shares OR exceeds the threshold value for Low-Income AND also exceeds the threshold values for three or more variables (#3 to #8), it is a COC.

 Urbanized Areas

	Population
Oakland	Over 350,000
Sunnyvale	50,000 to 350,000
Albany	Below 50,000



Source: MTC, CalEPA, BCDC, BAAQMD
Map Author: JC, January 2018





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Comparative Analysis of Spatial Identification Methods by BARC Member Agencies

Map 2: BCDC Adapting To Rising Tides (ART) Indicators

 Community Indicators (ACS 2014)

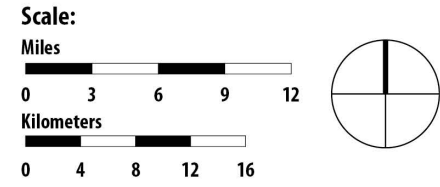
Methodology: Community indicators represent characteristics that may reduce ability to prepare for, respond to, or recover from a flood or seismic event. Indicators are counted in Census Block Groups which have a significant concentration (greater than mean + 1/2 standard deviation) relative to the nine county Bay Area. This dataset was first developed as part of the ABAG and BCDC Stronger Housing, Safer Communities Project.

Indicators include populations or households which are:

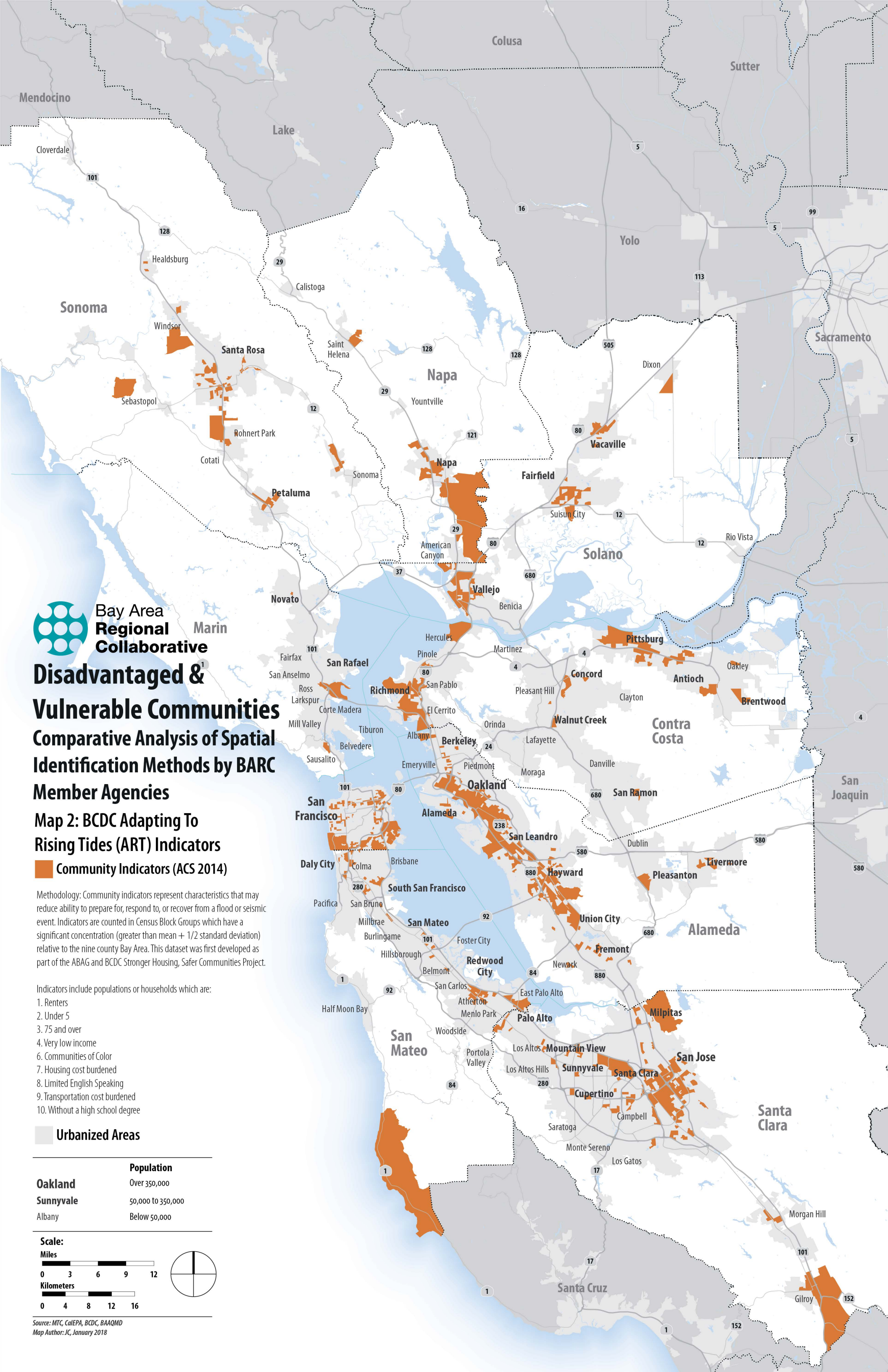
1. Renters
2. Under 5
3. 75 and over
4. Very low income
6. Communities of Color
7. Housing cost burdened
8. Limited English Speaking
9. Transportation cost burdened
10. Without a high school degree

 Urbanized Areas

	Population
Oakland	Over 350,000
Sunnyvale	50,000 to 350,000
Albany	Below 50,000



Source: MTC, CalEPA, BCDC, BAAQMD
Map Author: JC, January 2018





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Map 3: BAAQMD Community Air Risk Evaluation (CARE) Communities

Impacted Communities - Revised (2013)

Pollution-Vulnerability index (PVI) representing the cumulative impacts of:

- Cancer risk from toxic air contaminants (TAC)
- Hospitalizations and mortality rates from/"due to" PM2.5 and ozone above background
- Health costs from ER visits

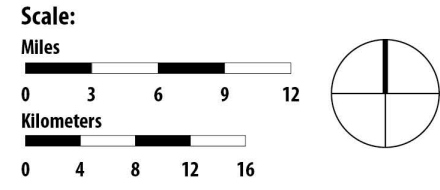
Air Pollution data inputs to calculate PVI include:

- Regionally modeled Toxic Air Contaminant (TAC) levels in 2015
- Annual average PM2.5 above background levels, estimated using regional air quality modeling and monitoring site observations
- Mean 8-hour ozone above background levels, interpolated from monitoring site observations

Boundaries of impacted communities contain zip codes that are within the top 15% of the PVI and follow major county boundaries, roads, shorelines. Some areas outside the cumulative impact boundaries experience poor air quality on individual days when state and federal air quality pollution standards are exceeded. These episodic exceedance areas are mapped for high PM2.5 and high ozone. The exceedance maps complement the cumulative impact maps, and contribute to programs such as Spare the Air.

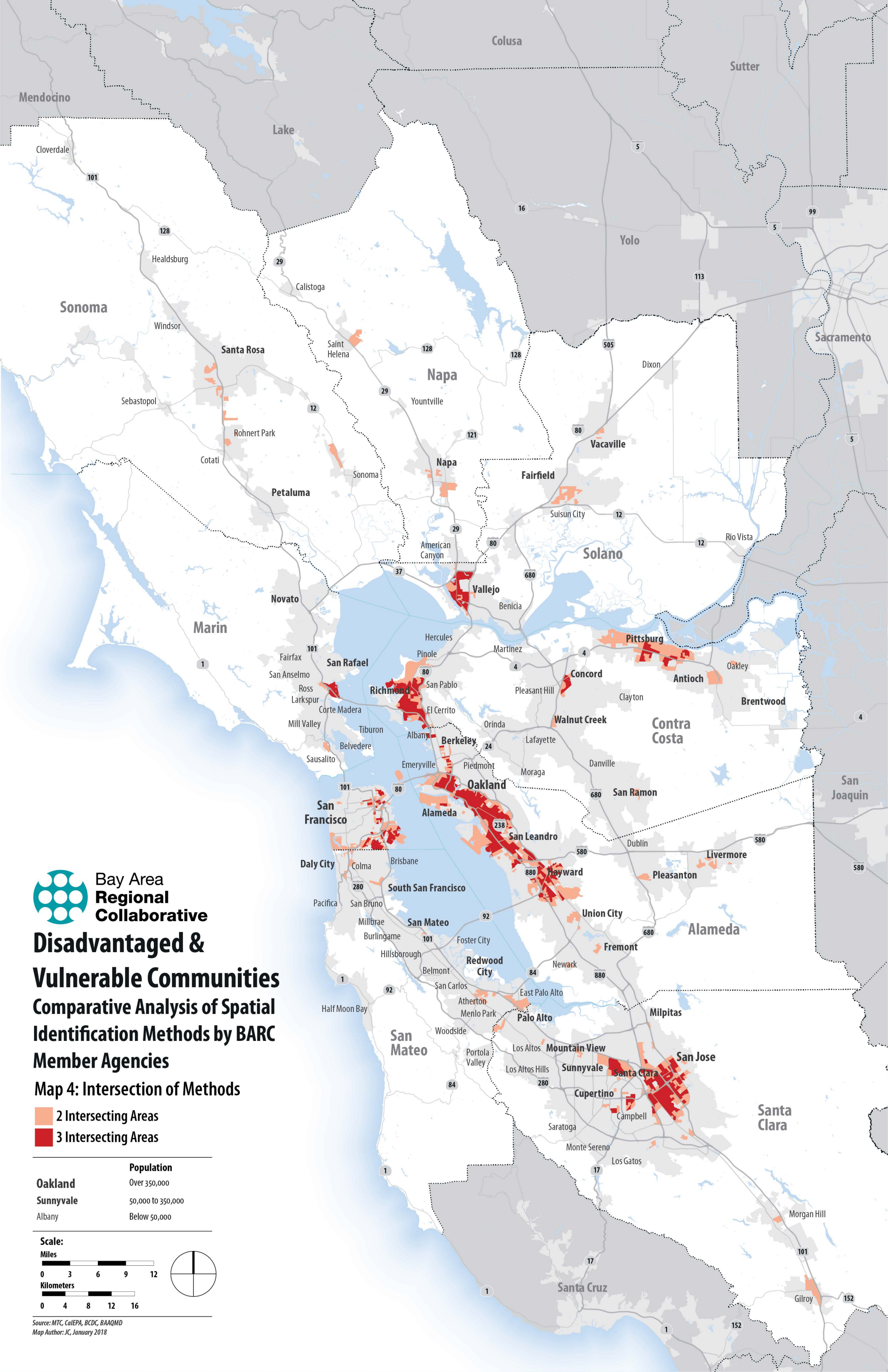
Urbanized Areas

	Population
Oakland	Over 350,000
Sunnyvale	50,000 to 350,000
Albany	Below 50,000



Source: MTC, CalEPA, BCDG, BAAQMD
Map Author: JC, January 2018





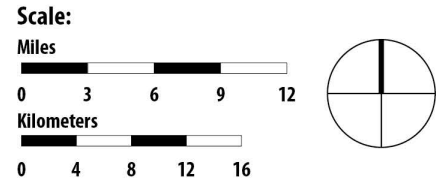
Disadvantaged & Vulnerable Communities

Comparative Analysis of Spatial Identification Methods by BARC Member Agencies

Map 4: Intersection of Methods

- 2 Intersecting Areas
- 3 Intersecting Areas

	Population
Oakland	Over 350,000
Sunnyvale	50,000 to 350,000
Albany	Below 50,000



Source: MTC, CalEPA, BCDG, BAAQMD
Map Author: JC, January 2018



Bay Area
Regional
Collaborative

Disadvantaged &
Vulnerable Communities
Comparative Analysis of Spatial
Identification Methods by BARC
Member Agencies

Map 5: CalEPA CalEnviroScreen 3.0

CalEnviroScreen 3.0 (Tracts with Score > 75%)

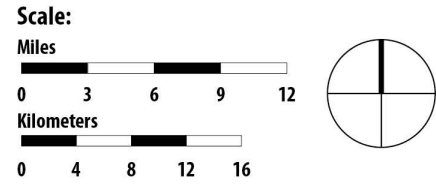
The overall CalEnviroScreen score is calculated by multiplying the Pollution Burden and Population Characteristics scores. Since each group has a maximum score of 10, the maximum CalEnviroScreen Score is 100.

The geographic areas are ordered from highest to lowest, based on their overall score. A percentile for the overall score is then calculated from the ordered values. As for individual indicators, a geographic area's overall CalEnviroScreen percentile equals the percentage of all ordered CalEnviroScreen scores that fall below the score for that area.

Maps are developed showing the percentiles for all the census tracts of the state. Maps are also developed highlighting the census tracts scoring the highest.

Urbanized Areas

	Population
Oakland	Over 350,000
Sunnyvale	50,000 to 350,000
Albany	Below 50,000



Source: MTC, CalEPA, BCDG, BAAQMD
Map Author: JC, January 2018

